(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 15 July 2004 (15.07.2004)

(10) International Publication Number WO 2004/058818 A3

- (51) International Patent Classification7: C07K 14/705, 16/28, G01N 33/68, A61K 39/395, C12N 15/12, A61K 38/17, G01N 33/50, C12N 15/62, A61K 48/00
- (21) International Application Number:

PCT/EP2003/051091

(22) International Filing Date:

23 December 2003 (23.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/436,001

26 December 2002 (26.12.2002) US

- (71) Applicant (for all designated States except US): AP-PLIED RESEARCH SYSTEMS ARS HOLDING N.V. [NL/NL]; Pietermaai 15, Curacao (AN).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): MUDA, Marco [IT/US]; 8 Perry St. 1, Brookline, MA 02445 (US).
- (74) Agent: SERONO INTERNATIONAL SA; Hassa, Jürgen, Intellectual Property, 12, Chemin des Aulx, CH-1228 Plan-les-Ouates (CH).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

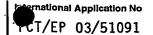
- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 16 September 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SPLICED VARIANTS OF LGR6

(57) Abstract: The present invention provides Leucine-Rich Repeat-Containing G-Protein Coupled Receptor-6 (LGR6-SVs) polypeptides and nucleic acid molecules encoding the same. The invention also provides selective binding agents, vectors, host cells, and methods for producing LGR6-SVs polypeptides. The invention further provides pharmaceutical compositions and methods for the diagnosis, treatment, amelioration, and/or prevention of diseases, disorders, and conditions associated with LGR6-SVs polypeptides.





A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K14/705 C07K16/28 G01N33/68 A61K39/395 C12N15/12
A61K38/17 G01N33/50 C12N15/62 A61K48/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 CO7K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, EMBASE, BIOSIS, EMBL

Category Citation of document, with Indication, where appropriate, of the relevant passages	Relevant to claim No.
X WO 02/068651 A (PE CORP NY) 6 September 2002 (2002-09-06)	1-24,26, 27, 29-32,34
Y SEQ ID NO:4,5,7 page 22 - page 56; claims 3,8-11,13,14,16-19	25
DATABASE EMBL 2 November 2002 (2002-11-02), STRAUSBERG R L ET AL: "Homo sapiens, Similar to rickets, clone IMAGE:5220507, mRNA." XP002285050 Database accession no. BC038795 abstract	1-5,7,11

Further documents are listed in the continuation of box C.	χ Patent family members are listed in annex.
Special categories of cited documents: A document defining the general state of the art which is not considered to be of particular relevance E earlier document but published on or after the international filing date L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) O document referring to an oral disclosure, use, exhibition or other means P document published prior to the international filing date but later than the priority date claimed	 *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family
Date of the actual completion of the international search 23 June 2004	Date of mailing of the international search report 12/07/2004
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Gruber, A

T/EP 03/51091

		TC1/EP 03/51091
C.(Continua	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	WO 01/85768 A (GU WEI ; MILLENNIUM PHARM INC (US)) 15 November 2001 (2001-11-15) page 50 - page 104; claims 3,5-7,11,12,15,19-22; example 1; sequences 4,7,10,11	1-24, 26-34 25
X	WO 02/29038 A (RASTELLI LUCA ; CURAGEN CORP (US); HERRMANN JOHN L (US); SHIMKETS RICH) 11 April 2002 (2002-04-11) page 60 - page 127; claims 12-14,22,23; tables 3A,3B,3D	1-24, 26-34
P,X .	DATABASE EMBL 21 March 2003 (2003-03-21), STRAUSBERG R: "Homo sapiens, clone IMAGE:5212508, mRNA, partial cds." XP002285051 Database accession no. BC047905 abstract	1-4,8,9, 11,13, 14,26
A	EP 0 950 711 A (AKZO NOBEL NV) 20 October 1999 (1999-10-20) the whole document	·
	·	·
	·	
		·
		·

nternational application No. PCT/EP 03/51091

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)	
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:	
1. X Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:	
see FURTHER INFORMATION sheet PCT/ISA/210	
Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:	
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).	
Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)	
This International Searching Authority found multiple inventions in this international application, as follows:	
As all required additional search fees were timely paid by the applicant, this international Search Report covers all searchable claims.	
As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.	
3. As only some of the required additional search fees were timely paid by the applicant, this international Search Report covers only those claims for which fees were paid, specifically claims Nos.:	
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:	
Remark on Protest The additional search fees were accompanied by the applicant's protest.	
No protest accompanied the payment of additional search fees.	

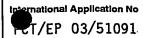
FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claim 22 is directed to a diagnostic method practised on the

human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Although claims 19, 34 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.



Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 02068651	A	06-09-2002	CA	243919	0 A1	06-09-2002
,			ΕP	137065		17-12-2003
			WO	0206865		06-09-2002
			US	200307467		17-04-2003
WO 0185768	Α	15-11-2001	AU	630200	1 A	20-11-2001
			EP	128506	4 A2	26-02-2003
			WO	018576	8 A2	15-11-2001
			US	200405837		25-03-2004
			US	200316604	7 A1	04-09-2003
WO 0229038	A	11-04-2002	AU	115020		15-04-2002
			AU	303910	2 A	29-04-2002
			AU	414900	1 A	27-08-2001
			CA	240033	2 A1	23-08-2001
			CA	242367	7 A1	11-04-2002
		1	EP	125583	5 A2	13-11-2002
			EΡ	135604	3 A2	29-10-2003
		•	JP	200352710	8 T	16-09-2003
			WO	016100	8 A2 ·	23-08-2001
			WO	200400963	4 A2 ⁻	29-01-2004
			WO	022903	8 A2	11-04-2002
			WO	023296	1 A2	25-04-2002
			US	200401012	0 A1	15-01-2004
			US	200321630	8 A1	20-11-2003
		,	US	200203785	0 A1	28-03-2002
			US	200307777	4 A1	24-04-2003
			US	200320405		30-10-2003
EP 0950711	A	20-10-1999	EP	095071	 1 A2	20-10-1999
			JP	200012588		09-05-2000